

New Genera and New Species of the Cuculliinae (Lepidoptera: Noctuidae)

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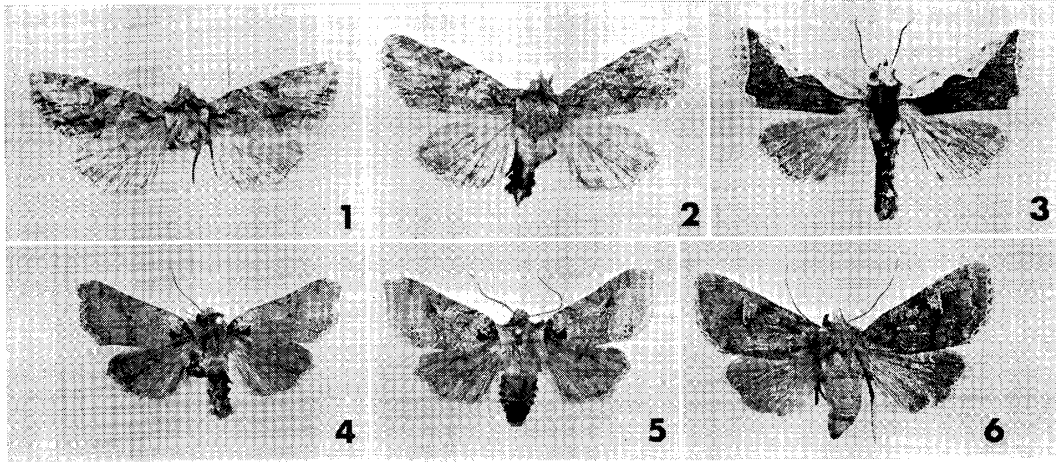
Three new genera and five new species of the subfamily Cuculliinae will be described to make them available for a revised catalogue of the Japanese Noctuidae that I am now preparing.

Dryobotodes angusta sp. n. (Figs. 1, 2)

♂. Expanse 35 mm. Antenna fasciculate. Vestiture of head and thorax chiefly of spatulate hair. Front and vertex ochreous white, the former with blackish transverse band. Tegula with black median band, dark grey brown beyond it, tipped with ochreous white. Patagia pale brown, mixed with black. Thoracic crests brown mixed with ochreous white.

Forewing pale ochreous irrorated with dark brown, especially in median space; subbasal line represented by a dark stria below costa; a loosely curved black striga below cell from base to before antemedian line, defined with pale above; antemedian line double, well represented below costa, excurved, becoming finer toward hindmargin; claviform large ovate, defined well by dark fine annulus; orbicular obliquely elliptical, well defined, pale with fuscous centre in it; a dark median stria below costa; space between orbicular and reniform darker, reniform relatively large, nearly elliptical, edged anteriorly by blackish lunule, slightly indented inwards posteriorly, pale with fuscous lunule in it; space beyond it slightly suffused with pale orange brown to postmedian line, which is double below costa, strongly indented outward, then strongly serrate on veins, but vestigial between them, incurved before hindmargin. Veins suffused with blackish beyond cell, subterminal line ochreous white, sinuous, crossing short blackish striae in cellules 4, 5 and 6; space between postmedian and subterminal lines somewhat whitish below vein 7 to above vein 3; fuscous spots before termen. Cilia dark brown with pale basal line. Hindwing pale greyish white, with loose fuscous lunule at end of cell, fine antemedian line and dark subterminal band; termen edged with fuscous, cilia grey fuscous.

Male genitalia (Fig. 9). Uncus long, slightly dilated beyond middle, with apex blunt. Tegumen and peniculus lobe moderate. Valva with costal margin highly arched at middle, cucullus relatively narrow and slender, with marginal corona of slender spines; ampulla broad at base extending to below cucullus, bifid at extremity; harpe reduced, with no free arm; juxta narrow with wider base. Aedeagus moderate, slightly curved, with a belt-like sclerite bearing a conical spine at apex; cornuti three stout spines and a bunch of finer setae.



Figs. 1-6. 1. *Dryobotodes angusta* sp. n. ♂, holotype. 2. Ditto, ♂, paratype. 3. *Rhynchaglaea hemixantha* sp. n. ♂, holotype. 4. *Mesorhynchaglaea pacifica* sp. n. ♂, holotype. 5. Ditto, ♀, paratype. 6. *Agrochola sakabei* sp. n. ♀, holotype.

♀. Not studied yet.

Holotype ♂. Honshu—Hyôgo Pref., Kurodashô, 16. xi. 1960 (K. OKAMOTO). Genitalia slide SS-820. In coll. SUGI.

Paratype. Shikoku—Takamatsu, Agricultural Experiment Station, 1 ♂, 20. xi. 1978.

Other material. Kyushu—Fukuoka Pref., Omuta city, 1 ♀, 16. xi. 1970 (T. SATA). In coll. SATA.

The paratype male is a heavily darker specimen than described. The present new species seems one of the rarest moths of our Cuculliinae, as I have seen no further specimens. The genitalia of two other species referred at present to *Dryobotodes* WARREN are illustrated in figs. 8 and 10.

Mesorhynchaglaea gen. n.

Type-species. *Mesorhynchaglaea pacifica* sp. n.

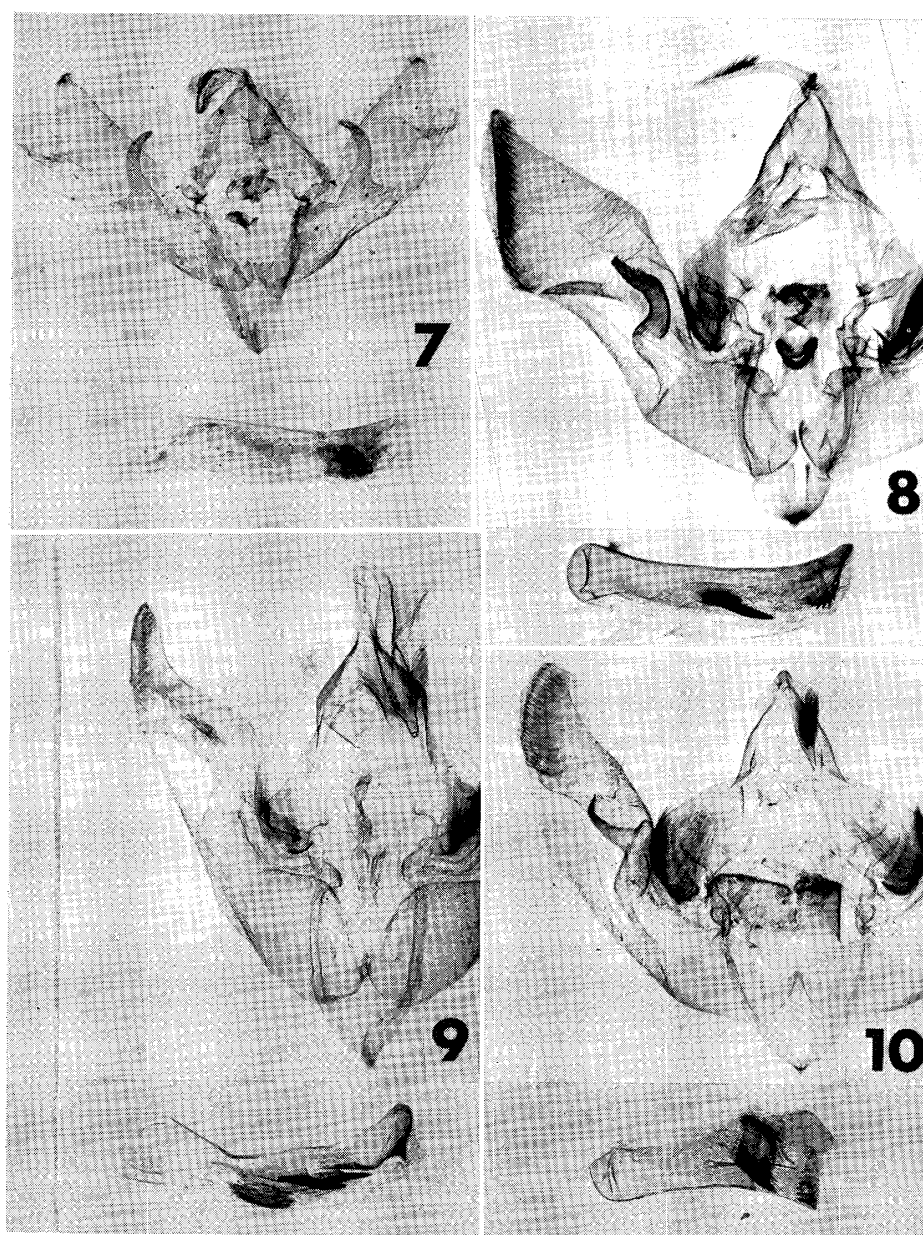
Antenna minutely ciliate, with a pair of fine bristles on each segment in male. Palpus moderate, with third segment short. Front roughened, with round prominence. Vertex and thorax with deep vestiture of spatulate hair, with pro- and metathoracic crests. Abdomen with lateral fringe of rough scales, flattened dorso-ventrally in female. Wings with venation typical for trifold Noctuidae. Forewing with apex obliquely truncate between veins 8 and 9. Termen crenulate.

Male genitalia nearly as in *Rhynchaglaea* HAMPSON. Uncus slender. Tegumen narrow, with peniculus lobe less developed. Juxta large, wider at base. Harpe very long, moderately curved. Cucullus relatively degenerate, fused below with ampulla and slightly asymmetrical; ampulla spinous in left side, lobed in right side. Aedeagus moderate, with proximal end dilated and belt-like sclerite at apex. Cornutus a very fine spine.

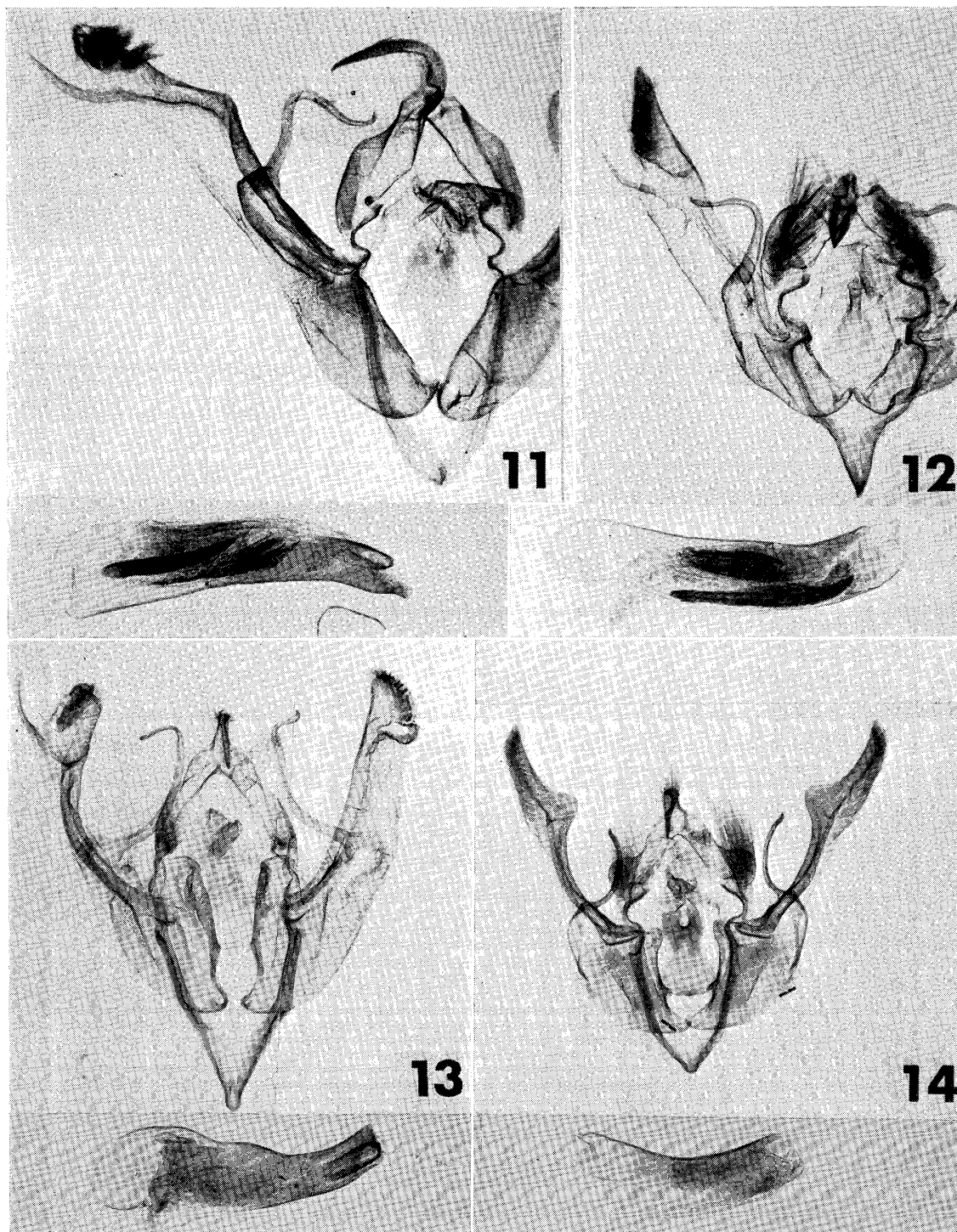
Mesorhynchaglaea pacifica sp. n.

(Figs. 4, 5)

♂. Expanse 26–29 mm. Vestiture of head and thorax pale brown, spatulate hair of vertex and thoracic crests markedly tipped with pale; tegula with black median band. Forewing dull brownish olive, irrorated with brown to dark scales; median lines usually indistinct, represented by dark striae below costa. A large subtriangular black spot at base of wing below cell, faintly edged above with pale yellow. Orbicular oblique, some trapezoidal, reniform narrow, sometimes restricted at middle or bent outward, both stigmata with pale annulus, often open above or joined together at



Figs. 7–10. Male genitalia. 7. *Valeriodes icamba* (SWINHOE). — 8. *Dryobotodes pryri* (LEECH). — 9. *Dryobotodes angusta* sp. n., holotype. — 10. *Dryobotodes intermissa* (BULTER).



Figs. 11–14. Male genitalia. 11. *Rhynchaglaea scitula* (BUTLER). — 12. *Rhynchaglaea hemixantha* sp. n., holotype. — 13. *Mesorhynchaglaea pacifica* sp. n., paratype. — 14. *Hemiglaea costalis* (BUTLER).

lower edge. Costa somewhat dark toward apex, some triangular fuscous spot before it. Cilia paler than ground colour of wing. Hindwing dark fuscous.

Male genitalia (Fig. 13). As described for the genus.

♀. Similar to male in size and wing pattern. Forewing somewhat irrorated

with pale olive, median lines more or less traceable, space between postmedian and subterminal lines paler.

Female genitalia (Fig. 17). As figured.

Holotype ♂. Shikoku—Kagawa Pref., Gokenzan, 9. iii. 1977 (T. MASUI). In coll. SUGI.

Paratypes. Honshu—Shizuoka Pref., Shimoda, Irôzaki, 1 ♀, reared, 1. xii. 1971 (S. SUGI). Aichi Pref., Irigo-misaki, 1 ♀, reared, 5. xii. 1972 (S. SUGI). Hyôgo Pref., Kobe, Taizanji, 1 ♀, reared, 1968 (B. TANAKA). Yakushima I.—Kurio, 1 ♂, 23. iii. 1968 (R. TAKAHASHI), 1 ♂, 28–30. iii. 1971 (R. SATO). Genitalia slides SS-1486, 2827. In coll. SUGI.

The present new species inhabits the southern coast of the mainland of Japan north to Izu peninsula and the island of Yakushima, wherever the food-plant, *Quercus phylliraeoides*, occurs. The larva is strongly associated with this hard-leaved oak, chiefly dominant in seaside rocky slope and forming ultimate forest locally.

Hemiglaea gen. n.

Type-species: *Penicillaria costalis* BUTLER, 1879.

Antenna ciliate in male. Palpus moderate, with third segment short. Front smooth. Vestiture of head and thorax moderate, of simple and spatulate hair mixed, with prothoracic and metathoracic crests. Abdomen without dorsal crest.

Male genitalia (Fig. 14). Uncus relatively small, bluntly pointed. Tegumen short, with peniculus moderately lobed. Juxta large wider at base and restricted at middle. Valva narrow, cucullus degenerated, without corona. Costa well sclerotized to apex, heavily swollen dorsad beyond middle. Ampulla wanting. Harpe a slender arm smoothly curved. Sacculus produced dorso-apically. Aedeagus moderate, without cornutus.

The present new genus is established to accept one species, *costalis* BUTLER, which was wrongly placed by HAMPSON (1906) in *Blepharidia* PÜNGELER, 1900 (nec HÜBNER, 1822), now replaced by *Blepharosia* BOURSIN, 1964, which is a purely Tibetan group with dissimilar type of genitalia (cf. BOURSIN, 1964).

Rhynchaglaea hemixantha sp. n.

(Fig. 3)

♂. Expanse 33 mm. Second segment of palpus pale yellow heavily mixed with red brown and purplish brown scales, third segment naked, pale yellow. Front pale yellow with dark transverse band; vertex and tegula pale yellow, the latter edged with red brown; thoracic vestiture red brown mixed with purplish grey. Forewing dark grey brown, suffused with purplish red near base below cell; costal space widely pale yellow to before apex, its lower edge smoothly curved from base of wing to above median nervure to restrict the costal band in cell; orbicular and reniform actually united and fused with the costal band to form a triangle enclosing a fuscous centre and defined below by black; ante- and postmedian lines represented by fine fuscous point at costa, then hardly traceable; subterminal line pale, slightly incurved from costa to near

tornus, then strongly indented to hindmargin; space beyond it pale creamy white heavily irrorated with fuscous; a series of fine fuscous points at veins on termen; cilia pale, tipped with fuscous. Hindwing suffused with fuscous, cilia as in forewing.

Male genitalia (Fig. 12). Uncus relatively short, broadened at middle, pointed. Tegumen relatively short, with peniculus lobe well developed. Valva moderate, with both sides nearly parallel; cucullus well separated, narrow trigonate, with marginal corona; ampulla with wide basal sclerite, bearing a slender free arm obliquely extending to a point and a minute spur below it; harpe moderate, strongly curved. Juxta large, widest at base, tapered caudally. Aedeagus moderate in size. Two groups of cornuti present on vesica, one consisting of a long spine associated with fine setae, the other a bunch of slender spines.

♀. Unknown.

Holotype ♂. Taiwan—Fenchihu, 14. iii. 1967 (T. MIYASHITA). Genitalia slide SS-1280. In coll. SUGI.

Paratype. Taiwan—Exact locality unknown, 1 ♂. In coll. SUGI.

The present new species is superficially somewhat similar to *Hemiglaea costalis* (BUTLER) (see above), but the long palpi and genitalic characters prove it to be best placed in *Rhynchaglaea*.

***Rhynchaglaea taiwana* sp. n.**

♂. Expanse 33 mm. Very similar in colour and wing pattern to *Rh. fuscipennis* SUGI, from which the present new species will be distinguishable only by the genitalic characters.

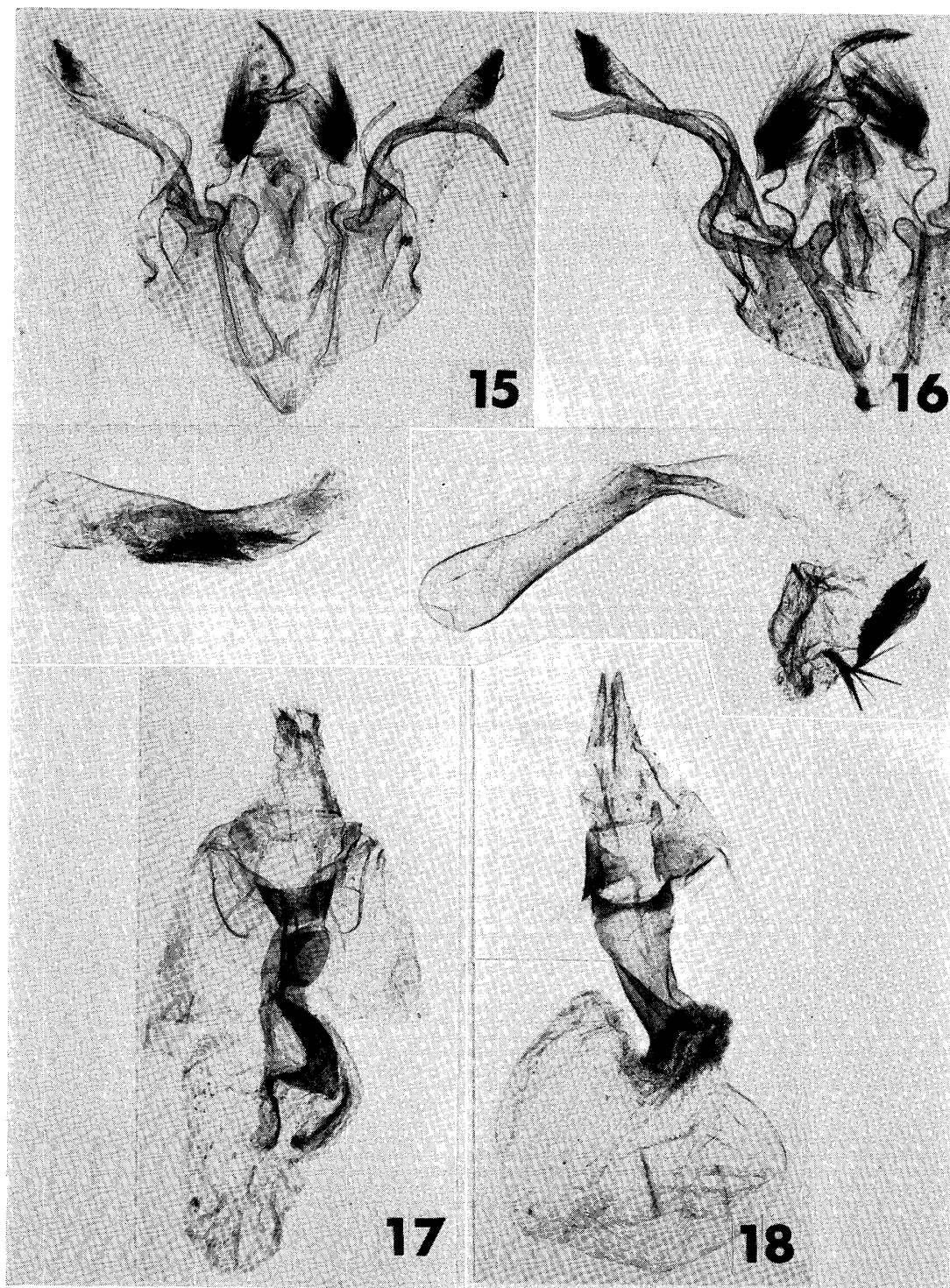
Male genitalia (Fig. 15). Uncus small, slender. Tegumen short, with peniculus moderate. Juxta widest at base, strongly restricted at middle. Valva with cucullus well separated, narrow trigonate, with marginal corona; ampulla extending obliquely to near apex of cucullus; harpe slender, moderately curved; sacculus heavily produced dorso-apically, bilobed. Aedeagus moderate; cornuti a bunch of about 20 moderately sized spines, associated with fine spinules.

♀. Unknown.

Holotype ♂. Taiwan—Chiai Prov., Alishan, 2400 m, 23–26. iii. 1972 (M. OWADA). Genitalia slide SS-2180. In coll. National Science Museum, Tokyo.

Closely allied to *fuscipennis*. In the male genitalia the present new species differs from it in the simple uncus, the absence of large mesal ridge on juxta, the bilobate dorso-apical extension of sacculus, which in *fuscipennis* (Fig. 16) represented by the inner moderate and the outer strongly curved stout projections.

Rhynchaglaea HAMPSON is a small genus characteristic to the warm temperate evergreen forest in eastern Asia, containing four species at present, two from Japan: *scitula* (BUTLER) and *fuscipennis* SUGI, 1958, and two from Taiwan as described here.



Figs. 15–18. Male and female genitalia. 15. *Rhynchaglaea taiwana* sp. n. ♂, holotype.
 — 16. *Rhynchaglaea fuscipennis* SUGI ♂. — 17. *Mesorhynchaglaea pacifica*
 sp. n. ♀, paratype. — 18. *Agrochola sakabei* sp. n. ♀, holotype.

Agrochola sakabei sp. n.

(Fig. 6)

♀. Expanse 32 mm. Antenna simple, with a pair of fine bristle on each segment. Vestiture of head and thorax of soft simple hair. Palpus pale brown mixed with chocolate brown. Head and thorax pale brown, tegula tinged with rufous at base, tegula slightly irrorated with purplish grey and rufous. Forewing pale grey brown slightly tinged with rufous; subbasal line represented by a dark stria below costa; antemedian line dark, sinuous; orbicular round, defined by fuscous annulus and slightly tinged with rufous; dark median shade loose, oblique from costa to lower angle of cell, bent inward to hindmargin; reniform pale, with inner and outer side nearly straight, the latter defined by creamy yellow, open above, with dark point below at lower angle of cell; postmedian line double, weakly excurved, filled in with pale; subterminal line pale, irregularly curved, defined by fuscous shade before it at costa and below vein 5; subterminal space tinged with fuscous; cilia dark grey with pale basal line. Hindwing uniformly dark grey, with fuscous discoidal spot; cilia pale yellow.

Female genitalia (Fig. 18). Ovipositor lobe somewhat sclerotized, tapered to apex. Posterior apophysis about 1.5 times longer than ovipositor lobe; anterior apophysis shorter than posterior. Ductus bursae fully sclerotized, about twice as long as its width at posterior end. Bursa copulatrix nearly spherical, with two ribbon-like signa recognized.

♂. Unknown.

Holotype ♀. Honshu—Mie Pref., Ômiya-machi, Takihara, 22. xi. 1960 (M. SAKABE). Genitalia slide SS-2791. In coll. SUGI.

Described from a single female that has been placed in my collection during nearly twenty years, awaiting the discovery of the male. I placed this new species provisionally in *Agrochola* HÜBNER, but it is not sure whether it really belongs to that genus or not.

Antivaleria gen. n.

Type-species: *Hadena viridimacula* GRAESER, 1889.

Antennal shaft thick, subserrate and fasciculate in male, ciliate with a pair of fine bristle on each segment in female. Vestiture and wing venation nearly as in *Valeriodes* WARREN, in which *viridimacula* Graeser has been placed, except more crenulate termen of wings and loose obscure dorsal crests of abdomen. Male genitalia distinct from *Valeriodes*; uncus large, spatulate with truncate apex; juxta relatively small, widest at base, restricted at middle, without mesal projection; valva proper relatively narrow, apically bent dorsad, with rounded margin and heavy diffused corona; ampulla wanting, harpe very stout, producing dorsad beyond margin of valva, then strongly curved to near lower edge of cucullus; sacculus well developed and bulged laterally. Aedeagus moderate in size; a heavy sclerite with serrate margin at apex; vesica armed with longitudinal tape-like patch and small scobinate one; cornutus a single spinule.

The male genitalia of *viridimacula* GRAESER were already illustrated by SUGI (1958). The present new genus is established to separate this species from *Valeriodes* WARREN,

1913, a well defined Himalayan genus, containing *icamba* (SWINHOE), the type-species, *heterocampa* (MOORE), *viridinigra* (HAMPSON) and *cyanelinea* (HAMPSON). I have examined the genitalia of these species, which are moderate in structure (Fig. 7), suggesting them to be related to certain group of *Euplexia* STEPHENS. WARREN may be correct in placing *Valeriodes* in Amphipyridae.

Acknowledgement

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References

- BOURSIN, Ch., 1964. Noctuidae Trifinae. Beitrag zur Kenntnis der Fauna der Noctuidae von Nepal. *Veröff. zool. StSamml. Münch.*, **8**: 3-40, 23 pls.
 HAMPSON, G. F., 1906. *Catalogue of the Lepidoptera Phalaenae in the collection of British Museum*, **6**. London.
 SUGI, S., 1958. Notes on some genera and species of the Japanese Cuculliinae (Lepidoptera, Noctuidae). *Tinea, Tokyo*, **4**: 200-222, 1 pl.

摘 要

Cuculliinae の 3 新属 5 新種を記載した。

Dryobotodes angusta sp. n. ホソバオビキリガ (新称). 本州 (兵庫県黒田庄町), 四国 (高松市), 九州 (大牟田市).

Hemiglaea gen. n. 模式種は *Penicillaria costalis* BUTLER キマエキリガ

Mesorhynchaglaea gen. n. 模式種は次種.

Mesorhynchaglaea pacifica sp. n. ヤクシマキリガ. 本州 (石廊崎, 伊良湖岬, 神戸市泰山寺, 以上幼虫より飼育), 四国 (白峰, 五剣山), 屋久島. 食樹はウバメガシ.

Rhynchaglaea hemixantha sp. n. 台湾 (奮起湖).

Rhynchaglaea taiwana sp. n. 台湾 (阿里山).

Agrochola sakabei sp. n. イセキリガ (新称). 本州 (三重県大宮町).

Antivaleria gen. n. 模式種は *Hadena viridimacula* GRAESER アオバハガタヨトウ.